

Clinical Observation of Using Baiao Lumbrokinase in the Treatment of Central Retinal Vein Occlusion. Capital Medicine, 1999, 6(2): 51

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Central retinal vein occlusion is the most commonly seen fundal vascular disease in seniors, and can cause blindness; there is still no effective treatment for it clinically at this point. From October of 1996 to August of 1998 we have treated 24 patients with central retinal vein occlusion. Twelve of the patients were treated with Baiao lumbrokinase and showed a clinically significant improvement compared to the other group.

Patient Selection:

24 confirmed cases of central retinal vein occlusion were selected with ages between 51 and 74. The average age is 56 years old, with 10 male and 14 female patients. All patients suffered from central retinal vein occlusion for the first time, and treatment was initiated within one week of disease onset. All 24 patients' conditions involved only one eye, with 13 cases having the occlusion in the main branch of central retinal vein and 11 cases having occlusion in the peripheral branches of central retinal vein. 20 of the patients had hypertension and arteriosclerosis.

Method:

Patients were divided into two groups of twelves. The treatment group was given Baiao lumbrokinase 2 capsules three times daily, and no other blood vessel dilator or "blood invigorator" was given. The control group was given intravenous ligustrazine in dextran, plus blood vessel dilator, Vitamin C, E, and B. Fibrinogen level, visual acuity, and fundoscopy were examined on all patients prior to treatment and three weeks after treatment. Patients with hypertension were allowed to maintain their original anti-hypertensive medication.

Results:

There were 7 patients with occlusion of the main branch of central retinal vein and 5 patients with occlusion of peripheral branches of central retinal vein in the treatment group. Visual acuity examination prior to treatment showed 4 cases of eye-front-finger-counting acuity, 3 cases of 0.05~0.3 acuity, and 5 cases of 0.7 or better acuity in the treatment group. After three weeks of treatment, visual acuity examination showed 1 case of eye-front-finger-counting acuity, 3 cases of 0.2 acuity, 2 cases of 0.8 acuity, 1 case of 0.9 acuity, and 5 cases of 1.0 acuity. The overall treatment effective rate was 91%.

There were 5 patients with occlusion of the main branch of central retinal vein and 7 patients with occlusion of peripheral branches of central retinal vein in the control group. Visual acuity examination prior to treatment showed 5 cases of eye-front-finger-counting acuity, 5 cases of 0.05~0.3 acuity, 2 cases of 0.8 acuity in the control group. After three weeks of treatment, visual acuity examination showed 3 cases of eye-front-finger-

counting acuity, 2 cases of 0.05 acuity, 4 cases of 0.3 acuity, 3 cases of 1.0 acuity. The overall treatment effective rate was 58%.

The blood fibrinogen levels of both groups were as follows:

Blood Fibrinogen Level Comparison

Fibrinogen Level (g/L)	Treatment (lumbrokinase)	Control (ligustrazine)
Prior to Treatment	5.5 +/- 1.2	5.1 +/- 1.4
Post Treatment	4.1 +/- 0.7	4.8 +/- 0.9
P Value	< 0.05	< 0.2

Discussion:

Central retinal vein occlusion mainly occurs in the elderly, and is the main fundal vascular disease in China; it also is one of the main causes of blindness. There are three main mechanisms in the development of central retinal vein occlusion, namely endothelial changes, blood component changes, and blood flow changes. Therefore, decreasing blood viscosity, improving microcirculation, and preventing thrombus formation should be the main goals when considering treatment plan (1). Compared with the control group, Baiao lumbrokinase was able to significantly reduce fibrinogen level and the blood viscosity, thus achieving fibrinolysis. In terms of visual acuity improvement, the treatment group also showed significantly better results than the control. Out of the twenty-four subjects, nine patients with severe visual loss were followed up on the fundal changes; all had main branch occlusion of the central retinal vein, five had fundal red reflex, and four had large area hemorrhaging involving the macula. After two weeks of treatment, fundal structure could be visualized in three fundal red reflex patients of the Baiao lumbrokinase group with corresponding vision improvement. On the other hand, fundal structure still could not be visualized in the two fundal red reflex patients of the control group; though one of the two patients did showed vision improvement. All four patients with macular hemorrhage had various degree of resorption. Therefore, using lumbrokinase to treat central retinal vein occlusion appears to have a good short-term effect. However, central retinal vein occlusion tends to have a long-term effect on the vision, and the risk of developing ischemia after resorption of the hemorrhage is always present, which can lead to blindness especially in cases involving the main branch of the central retinal vein (2). Thus, the long-term treatment effect of Baiao lumbrokinase still needs to be studied further.

Reference:

1. Klien B.A.: Retinal lesion associated with uveal diseases, Part 1. Amer. J. Ophthalmol. 42: 831, 1957
2. Yang J. Current Practice of Ophthalmology. People's Public Health Publishing Co. 1993, 456.